

ON SOME SPECIES OF RHOPALOCERA FROM SOUTHEAST ASIA WITH DESCRIPTIONS OF A NEW SPECIES AND A NEW SUBSPECIES

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***Pachliopta phegeus leytenensis* subsp. nov.** (fig. 1, 2 fig. D, E)

Holotype 1♂ 20, July, 1976, Length of forewing 47 mm.

Paratypes 1♂ 31, March, 1976, 46 mm. 1♀ 21, Jan. 1977, 48 mm. 1♀ 14, Jan. 1976, 49 mm.

All types collected in Catmon, St. Bernard, Southern part of Leyte Island.

In author's collection.

As the distribution of *Pachliopta phegeus*, Semper (1892) has mentioned Islands of Samar, Panay, Mindanao, but recently, Islands of Cebu and Leyte etc., have been added. Particularly, *A. phegeus* of Leyte Island differs from the original subspecies (fig. 3, 4) in the following points:

Upperside hindwing with a remarkable white marking in the distal area of the cell and the space 1b. Also at the base of the space 5, a small white marking is found. (In the original subspecies, minute or hardly any white marking appears in the distal area of the cell, the white marking in the space 1b is much smaller, the space 5 is devoid of white marking). The original *phegeus* (fig. 3, 4) bears three bright red spots in male, four in female on the outer margin, but this new subspecies bears dull red spots in the spaces 2, 3, 4 obscure greyish white spots in the spaces 5, 6 in both sexes. The dull red spots are mixed with black scales. Male genitalia, sacculus of valve (lower half) is longer, head of upper half only weakly projects. The apex of phallus is not so pointed as in the original *phegeus* (fig. G).

***Graphium milon* Felder. stat. nov.** (fig. 5 fig. F.H.I.)

Examined specimens: 3♂♂, 23 April 1967, Bantimurung, 45 km., northeast of Makassar, South Sulawesi. Length of forewing 46-48 mm. In author's collection.

At present, *Graphium milon* is regarded as a Sulawesi subspecies of *sarpedon*, but *milon* is considerably different from other subspecies of *sarpedon* in appearance as well as in genitalia.

In male genitalia, four broad-toothed processes jut out from fore inner part of the ventral margin of the valve. Also from the dorsal margin a process extends forward. According to above-mentioned reasons, *mi'on* is a good species to be sharply distinguished from the species *sarpedon*, and the endemic *Graphium* of Sulawesi.

***Graphium sarpedon monticolus* Fruhstorfer form. nov.?** (fig. 6)

Examined specimens: 4♂♂, 26 January 1975, Puncak, Palopo, Sulawesi. Length of forewing 38-40 mm. In author's collection.

As above-mentioned, the Sulawesi subspecies of *Graphium sarpedon* is not represented by *milon*, but by *monticolus* known from southern mountains of Sulawesi. Many examples which were caught by Mr. Jêzaburô Ohkura in January, 1975 in a mountainous area near Palopo, Central Sulawesi, are allied to the subspecies *montico'us*. However, along outer margin of forewing on upperside, conspicuous narrow bluish lunules appear and the discal bluish band is a little broader. Although here I tentatively consider this form as a spring form of *monticolus*, there is a possibility that this form represents a new subspecies found Central Sulawesi.

I would like to express my deep gratitude to Mr. J. Ohkura who has made his collected materials available for my study. He has found *milon* at low elevations, the subspecies of *sarpedon* at higher altitudes in the same area near Palopo.

***Delias benasu* Martin** (fig. 7, 8)

Examined specimen: 1♀, 10 June 1974, Puncak, Palopo, Sulawesi.

Length of forewing 43 mm. Mr. T. Muzunuma leg. In author's collection.

I describe here the female which was hitherto unknown.

Upperside: forewing, subapical and postdiscal areas and tornal angle bear conspicuous white scales, which gradually become faint towards outer margin; hindwing, postdiscal white band also is blurred towards outer margin; white streak on discocellular vein is thin but distinct. Underside: arrangement of white markings of both wings as on upperside, but the markings of hindwing with yellowish tone.

***Athyma mindanica* sp. nov.** (fig. 11-14, fig. A)

Holotype 1♂ Length of forewing 28 mm. Paratypes 4♂♂ 28-30 mm. 3♀♀ 29-30 mm. All types were caught between 26 April and 15 May, 1977, in Southeast Mindanao. In author's collection.

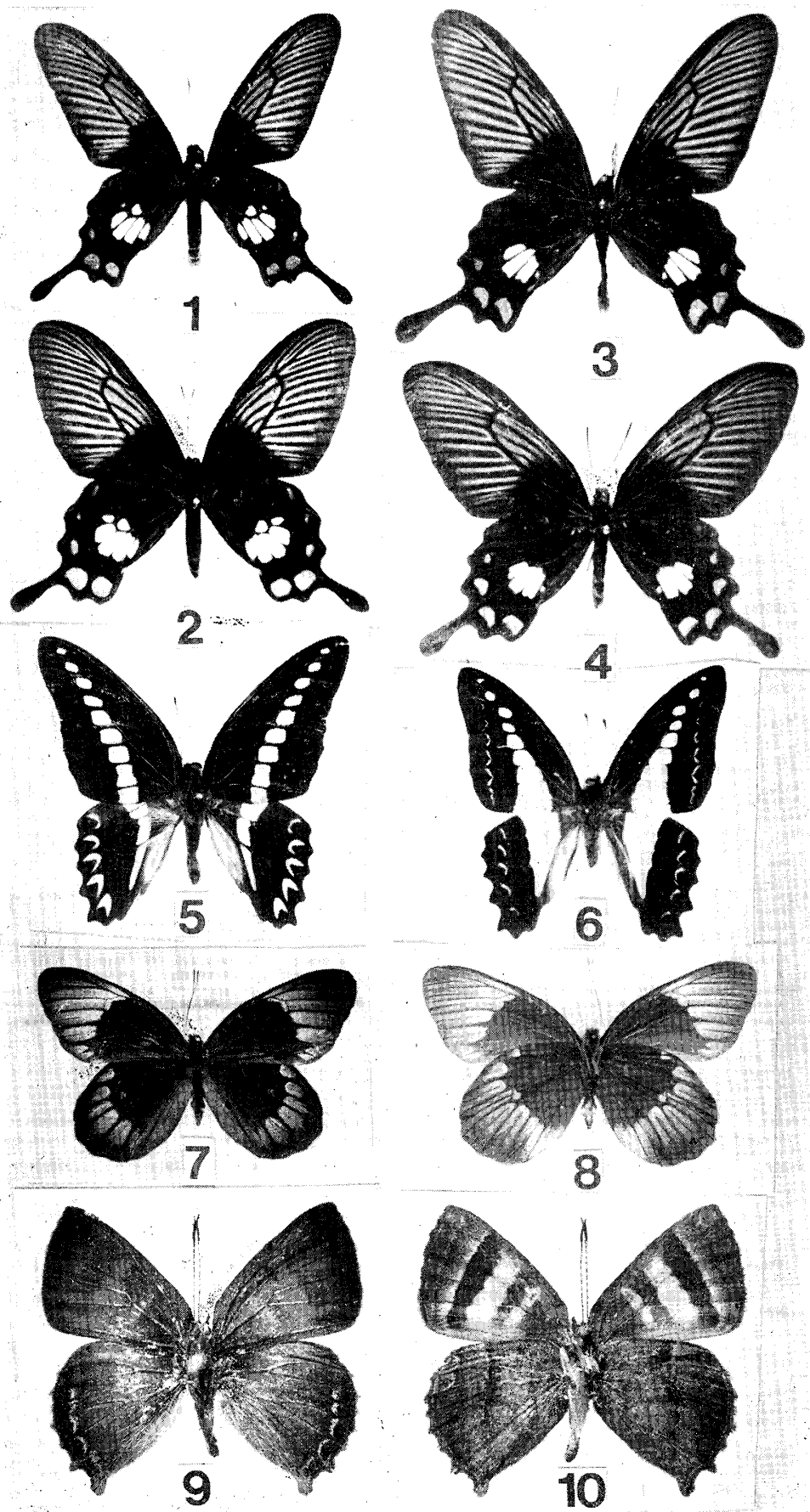
Closely allied to *Athyma bruijni cosmia* Semper (fig. 15-16), but differs from it in the following characteristics:

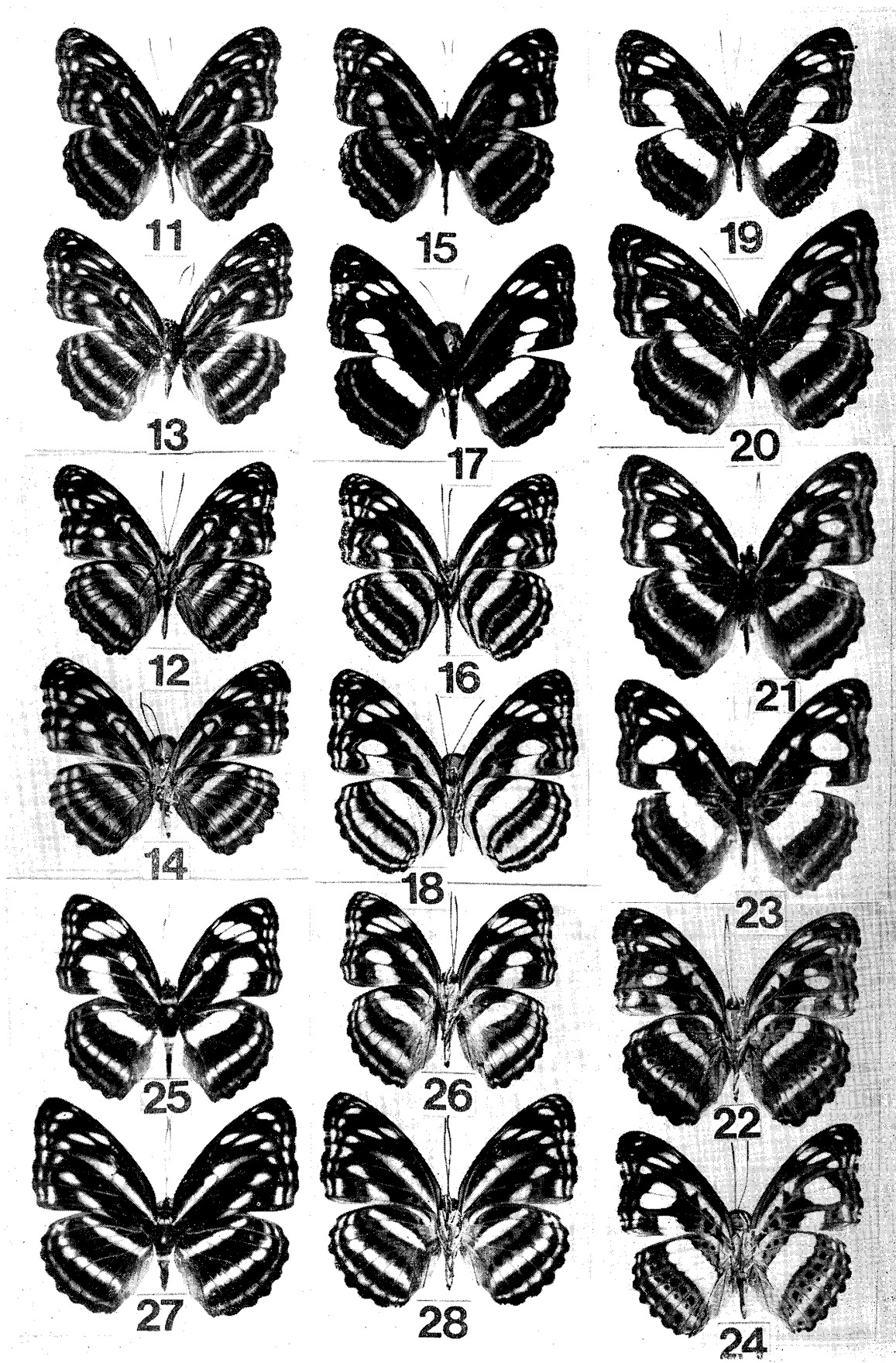
Male, upperside of forewing, discoidal cell bears a brownish yellow basal streak followed distally by a triangular spot. (In *bruijni*, a brownish yellow basal streak runs across the cell and extends beyond it.) This is an important distinctive feature. A brownish yellow bar stands out on discocellular vein. Two subapical white markings near costa are slenderer, a lower one of two subapical markings is somewhat obscure. The discal brownish yellow markings in the space 1 & 2 are smaller. Upperside of hindwing, discal brownish yellow band is narrower, but submarginal brownish yellow band is broader, indistinctly edged.

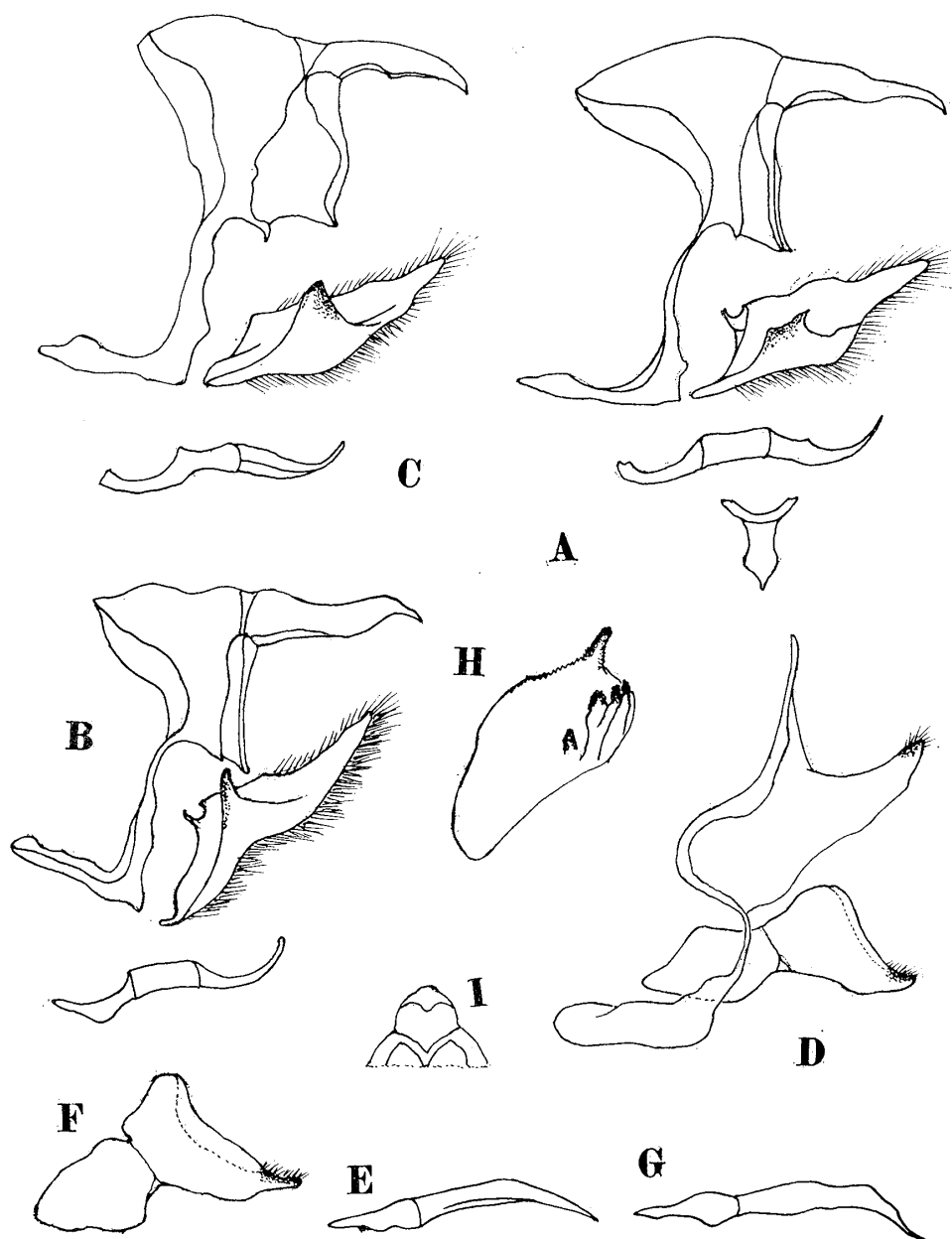
Underside, ground colour is brownish yellow (brownish white in *bruijni*), markings of both wings as on upperside, being white or yellowish white. Area between yellowish white discal band and submarginal band of the same colour becomes brownish yellow in which a black spotted band runs. Female, similar to male in marking, ground colour more yellowish in tone. In male genitalia, tip of uncus is slender, not curved inward as in that of *bruijni* (fig. B.). Lower tip of gnathos is more strongly pointed. The ventral side of succulus not so strongly concaved. Also the board-shaped process does not jut out so considerably as in *bruijni*.

A. bruijni is very similar to *A. gutama* (fig. 17-19) in the position of markings, so both species should be regarded as cases of allopatric speciation. In the same way, *A. epimethis* (fig. 20-22, fig. C) and *A. kasa* (fig. 23-24), the new species and *A. maena* (fig. 25-28) are respectively allopatric. Sexes of *A. maena* differ conspicuously between themselves and the vicariant species of *A. nefte* from Mindanao. Five other *Athyma* species except *maena* have the same markings in both sexes. *A. gutama* has not so far been known from Mindanao, so I record it as follows:

Fig. 1. *Pachliopta phegeus leytenis* ssp. nov. Holotype ♂ Length of forewing 47mm. Fig. 2. Do. Paratype ♀ 49mm. Fig. 3. *Pachliopta phegeus phegeus* Semper. ♂ 46mm. Fig. 4. Do. ♀ 47mm. Fig. 5. *Graphium milon* Felder. ♂ 47mm. Fig. 6. *Graphium sarpedon monticolus* Fruhstorfer. f. vern.? ♂ 40mm. Fig. 7. *Delias benasu* Martin ♀ 43mm. Fig. 8. Do underside. Fig. 9. *Melanolycaena altimontana* Sibatani ♂ 13mm. Fig. 10. Do. Underside. Fig. 11. *Athyma mindanica* sp. nov. Holotype ♂ 28mm. Fig. 12. Do. Underside. Fig. 13. *Athyma mindanica* sp. nov. ♀ Paratype 29mm. Fig. 14. Do. Underside. Fig. 15. *A. bruijni cosmia* Semper ♂ 26mm. Fig. 16. Do. Underside. Fig. 17. *A. gutama* Moore ♀ 30mm. Fig. 18. Do. Underside. Fig. 19. *A. gutama* Moore ♂ 28mm. Fig. 20. *A. epimethis gordia* Felder. ♀ 31mm. Fig. 21. *A. epimethis gordia* Felder ♂ 30mm. Fig. 22. Do. Underside. Fig. 23. *A. kasa* Moore ♂ 29mm. Fig. 24. Do. Underside. Fig. 25. *A. maena* Felder ♂ 28mm. Fig. 26. Do. Underside. Fig. 27. *A. maena* Felder ♀ 32mm. Fig. 28. Do. Underside.





Fig. A. Male genitalia of *A. mindanica* sp. nov.Fig. B. Male genitalia of *A. bruijni*.Fig. C. Male genitalia of *A. epimethis*.Fig. D. Ring of *P. phegeus leytensis* ssp. nov.Fig. E. Phallus of *P. phegeus leytensis* ssp. nov.Fig. F. Valve of *Graphium milon*.Fig. G. Phallus of *P. phegeus phegeus*.Fig. H. Valve of *Graphium milon*.Fig. I. Juxta of *Graphium milon*.

1♀ (fig. 17-18) Southeast Mindanao, between 26, April and 15, May, 1977. In author's collection. The subspecific position needs further research. I wish to particularly thank Mr. Hideaki Shiroki and Lt. Col. J. N. Eliot for kind advice and many specimens.

***Melanolycaena altimontana* Sibatani (fig. 9-10)**

In 1974, Dr. A. Sibatani described this interesting species from Highlands of Papua New Guinea. The species includes two new subspecies. Namely, ssp. *altimontana* from Hagen Range (2700 m-3000 m) of West Highlands and ssp. *microgyris* from Marifunga (2450m) of East Highlands. So we regarded this new species as a pure alpine species. However, I recently obtained a male specimen from a different locality.

1♂ Maripok, West Sepik, Papua New Guinea, 18 July 1977. In author's collection. A line of submarginal orange lunules from the space 2 to 6 on hindwing is very conspicuous.

West Sepik is on the northern coast, and by no means as high in altitude. It is interesting that this species occurs also in lowland. The determination of the exact subspecific name for specimens from this district is pending.

要 約

本文においてフィリピン産 *Pachliopta phegeus* につき、レイテ島のものを新亜種とし、セレベスの *Graphium milon* が従来 *sarpedon* の亜種とされてきたものを独立種と認め、新たにセレベス中部から採れた *sarpedon* 亜種を仮に南部から知られている亜種 *monticolus* の春型として記録した。しかし、あるいは *monticolus* とは別の中部亜種と認むべきものかもしれない。フィリピン、ミンダナオ島からは *Athyma bruijini* に近い *Athyma* 属1新種を記載したが同様に斑紋が褐黄色のものに *epimethis* がある。これら3種にはそれぞれ対応する白斑の種があって *bruijini* には *gutama*, *epimethis* には *kasa*, 本新種には *maena* がそれぞれ地域隔離による分化種としてコンビをなすと考えられる。*maena* 以外の種は♂♀間に著しい外観的相違はない。柴谷氏がニューギニアから記載した *Melanolycaena altimontana* はすべて高山地帯から得られた標本に基づいているが、今回著者が入手したものは低地帯産で、分布上注目される。また従来未知であったセレベス産 *Delias benasu* の雌を記録した。

(村山 修一)